

16. Which *one* of the following pictorials is an example of a *true* xanthelasma associated with familial hypercholesterolemia?



(A)



(B)



(C)



(D)

17. The target gene for which *one* of the following nuclear receptors is shown in blue in Figure 1?

- (A) LXR.
- (B) FXR.
- (C) PPAR- α .
- (D) PPAR- γ .
- (E) PPAR- β or δ .

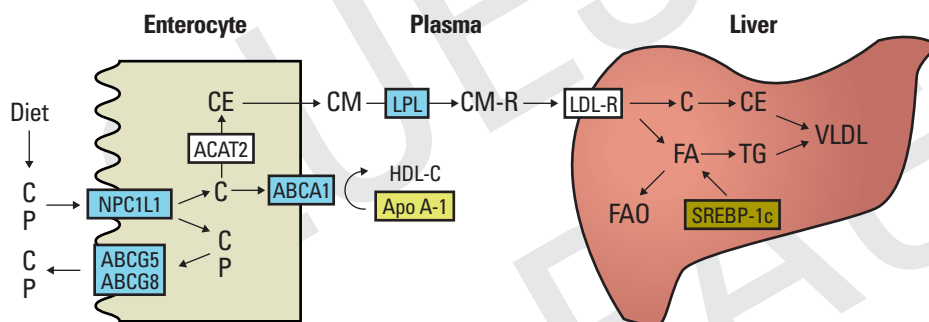


Figure 1.

With an increase in atorvastatin to 80 mg/day, lipid and glucose levels are as follows:

Total Cholesterol	178 mg/dL
Triglycerides	231 mg/dL
HDL-C	42 mg/dL
LDL-C	90 mg/dL
Non-HDL-C	136 mg/dL
Fasting blood glucose	97 mg/dL

52. Clinical trial evidence supports a benefit for optimizing the reduction in risk for cardiovascular disease in this patient by achieving which *one* of the following target levels?
- (A) HDL-C >60 mg/dL.
 - (B) Triglyceride <100 mg/dL.
 - (C) LDL-C <70 mg/dL.
 - (D) Non-HDL-C <100 mg/dL.
53. Known genetic abnormalities that can lead to combined hyperlipidemia include which *one* of the following?
- (A) Cholesteryl ester transfer protein (CETP) deficiency.
 - (B) Apo E-II homozygosity.
 - (C) Lipoprotein lipase (LPL) deficiency.
 - (D) LDL receptor (LDLR) deficiency.
 - (E) Apo A-V mutations.
54. The principal metabolic abnormality associated with familial combined hyperlipidemia is which *one* of the following?
- (A) Decreased LPL activity.
 - (B) Increased Apo B secretion.
 - (C) Decreased LDLR function.
 - (D) Increased hepatic triglyceride secretion.
 - (E) Increased CETP activity.
55. Which *one* of the following is NOT a cause for residual cardiovascular disease risk in this patient?
- (A) Increased remnant lipoproteins.
 - (B) Elevated CRP.
 - (C) Increase in small, dense LDL particles.
 - (D) Reduced Apo C-III.
 - (E) Reduced Apo A-I.

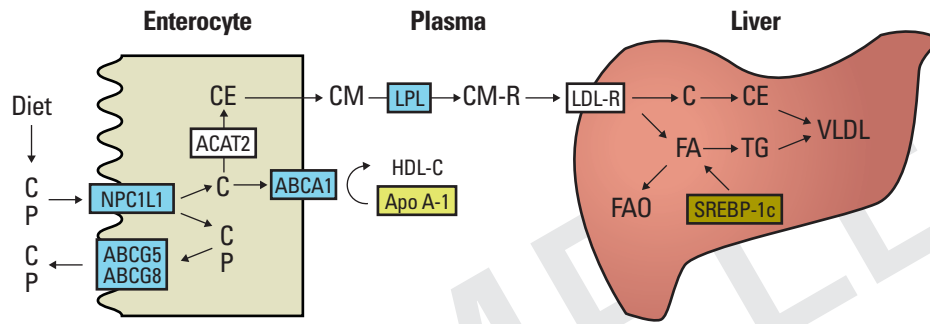
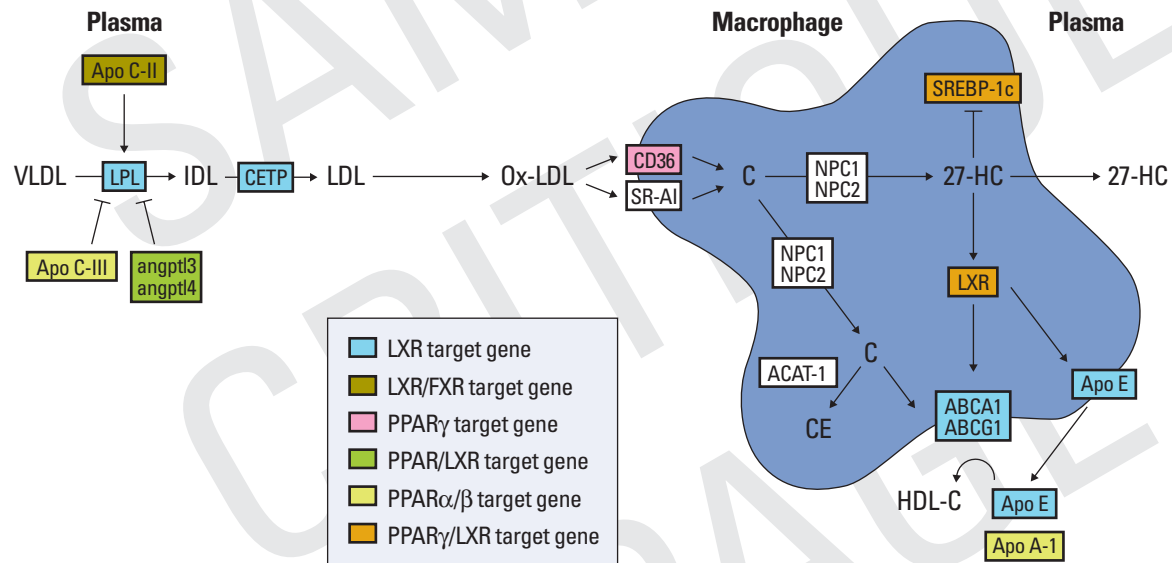


Figure 3.



- LXR target gene
- LXR/FXR target gene
- PPAR γ target gene
- PPAR/LXR target gene
- PPAR α / β target gene
- PPAR γ /LXR target gene

Legend					
ABC	ATP-binding cassette	E	apolipoprotein E	NPC1	Niemann-Pick C1
ACAT	acyl-coenzyme A: cholesterol acyltransferase	EL	endothelial lipase	NPC1L	Niemann-Pick C1-like
Angptl	angiopoitin-like protein	FA	fatty acids	OATP	organic anion transporting polypeptide
ASBT	apical sodium-dependent bile acid transporter	FAO	oxidized fatty acids	Ox-LDL	oxidized LDL
BA	bile acids	FC	free cholesterol	P	plant phytosterols
BSEP	bile salt export pump	FXR	farnesyl X receptor	PL	phospholipids
C	cholesterol	HC	hydroxycholesterol	PLTP	phospholipid transport protein
CD36	scavenger receptor CD36	HL	hepatic lipase	PPAR	peroxisome proliferator-activated receptor
CE	cholesterol ester	IBABP	ileal bile acid-binding protein	PXR	pregnane X receptor
CETP	cholesterol ester transport protein	LCA	lithocholic acid	SHP	short heterodimer partner
CM	chylomicron	LCAT	lecithin-cholesterol acyltransferase	SR	scavenger receptor
CM-R	chylomicron remnant	LDL-R	LDL receptor	SREPB	sterol regulatory element-binding protein
CYP27A	mitochondrial sterol 27-hydroxylase	LPL	lipoprotein lipase	TG	triglycerides
CYP7A	cholesterol 7 alpha-hydroxylase	LRH	liver receptor homologue	VLDL	very low density lipoprotein
CYP7B	microsomal oxysterol 7 alpha-hydroxylase	LRP	LDL receptor-related protein		
		LXR	liver X receptor		
		MRP3	multidrug resistance-associated protein		

Figure 4.